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To: Douglas Chan <ENGM08C@BOSTONU>

INFO-HAMS Digest                      Sun, 20 Mar 88                      Volume 88 : Issue 117

Today's Topics:

                    AMSAT News 079  
                    Skitrek 1st Drop Information  
                    Skitrek Report 8

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Date: 19 Mar 88 07:00:18 GMT  
From: ulysses!thumper!karn@ucbvax.Berkeley.EDU (Phil R. Karn)  
Subject: AMSAT News 079

Posted: Fri Mar 18, 1988    5:47 AM GMT                      Msg: IGII-3422-7213  
From: VRIP  
To: is  
Subj: NEWS.079

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\*                      AMSAT NA News Service Bulletins                      \*  
\*                      NEWS079 19Mar88                      \*  
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\* [                      Edited for AMSAT NA by WA2LQQ.                      ] \*  
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[Note to NCS and other communicators: Beginning with this ANS bulletin, we will no longer be carrying the "Recent News In Review" section. This action is taken to save on communication costs. You should, however, assure you have the prior week's bulletins on hand to recap important items. Most news items have a lifetime of about two weeks.

Also, for packet BBS activities, a special formatted version of the bulletins will be available to facilitate transmission through the packet network beginning next week.]

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Headlines:

1. Brazil AMSAT To Build Educational Satellite With AMSAT NA
2. Latest SKITREK Progress Report (direct from Rich Ensign)
3. Board Meeting Highlights
4. Motorola Donates Complex DSP Package
5. Board Reviews Dues Structure; New Rates Reflect Postal Increase
6. Short Bursts

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# 1. Brazil AMSAT To Build Educational Satellite With AMSAT NA

Brazil AMSAT (BRAMSAT) and AMSAT North America (AMSAT NA) have agreed in principle to collaborate on a joint educational satellite project. The satellite will carry an advanced voice synthesizer and be designed for easy reception by Amateurs with minimal equipment. Called "Brazil Peacetalker", the satellite will transmit voice telemetry of spacecraft operating conditions as well as a voice greeting to other space faring nations to work towards the peaceful use of space. This theme may lead into the International Space Year now planned for 1992.

Brazil Peacetalker will be designed to be received by schools using minimal equipment and for Amateurs who wish to explore space sciences by logging and studying the telemetry. Preliminary plans have the telemetry read in English while the greeting messages would be articulated in Portuguese, English and Russian. Other languages could be added. The specific messages will be programmable by a ground command station which shall be under the control of international authorities.

The preliminary agreement was reached in Boulder Colorado March 6 when BRAMSAT President Dr. Junior De Castro, PY2BJO, met with AMSAT NA officials. A definitive agreement is imminent these officials stated. The AMSAT Board of Directors which met March 12 and 13 has reviewed the project and finds it in AMSAT NA's interest to consummate a final accord with BRAMSAT. If plans go forward as expected, the Brazil Peacetalker will be launched in early 1989 into an approximately 800 km high orbit. Plans call for Brazil Peacetalker to be launched with AMSAT NA's packet radio satellite and perhaps a third satellite of the same class. These satellites will be small but highly capable. An important design criterion is that they be easily heard on the ground with omni-directional antennas.

The satellite will be funded by BRAMSAT and the tasks partitioned between organizations based on a to-be-negotiated Statement of Work. A preliminary design has been completed and construction will begin upon signing of the definitive agreement.

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## 2. Latest SKITREK Progress Report (direct from Rich Ensign)

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## 3. Board Meeting Highlights

The AMSAT Board of Directors met at AMSAT Headquarters in Silver Spring, Maryland March 12 and 13. Here are the highlights of the two day meeting.

Jan King, W3GEY, currently Vice President of Engineering, was elected Chairman of the Board of Directors. Jan co-founded AMSAT in 1969 and has been a Board member since then. He is the only original member of the Board still active. He replaces John Browning, W6SP, who resigned from the Board last month. John Henry, VE2VQ, formerly First Alternate Director, was seated upon W6SP's resignation and participated in the Board meeting as a full voting member. Andy, MacAllister, WA5ZIB, elevated to First Alternate Director, did not attend.

Administrative Director Martha Saragovitz was recognized and applauded on having completed 10 years as an AMSAT employee. She will receive a plaque to display on the office wall together with her other meritorious service awards.

Deliberations of the Board covered matters such as liability insurance and hazard insurance, accounting for volunteer labor expenditure, ASR costs and the 1988 budget. Income has sagged probably due to AO-10's demise. As a result, unless renewals turn around, the budget will have to be trimmed sharply. The influx of new members and renewals associated with the Phase 3C launch should revive a healthy financial picture, however, all agreed.

Field Operations progress was reported by VP of Field Ops, Doug Loughmiller, K05I. A strengthened Field organization is at hand Doug said. The AMSAT News Service bulletins will be partitioned into smaller blocks to facilitate transmission through the packet radio network and on to packet BBS. The changes will go into effect in late March.

AMSAT will play a key role in the International Space Year (ISY), if plans continue on course. AMSAT is forced to defend its copyright on its corporate name several times per year at least at a cost of several thousands of dollars in legal fees. New accounting software is being installed at Headquarters to make the bookkeeping easier and more auditable. Telecommunications costs are running at about 10% of the annual budget or about \$20,000. Electronic mail comprises more than half of that amount but the expense was recognized as reasonable and the cost of doing business in a dispersed office environment; with volunteers spread all over the world.

Recognition of launch insurance donations will be made in ASR at the earliest opportunity. A very important joint AMSAT-TAPR Digital Signaling Processing project was given the go-ahead. The object will be to manufacture for sale

special DSP boxes later this spring. The hardware sales will generate a revenue stream to help pay for the PACSAT satellite now being developed and will complement an on-going software sales effort.

A joint Brazil AMSAT and AMSAT NA project for an educational satellite was approved subject to final contract definitization. This satellite will tentatively be launched in 1989 with AMSAT NA's PACSAT.

A collaborative effort with Weber State University in Ogden, Utah is highly desirable and likely the Board was told. Discussions on this subject will continue apace. Weber State built the NUSAT-1 satellite and operated as well.

Fund raising program initiatives were very much on the Board's mind with PACSAT coming up after Phase 3C and Phase 4 looming large on the horizon.

The minutes of the meeting will be available as soon as the Secretary to the Board finalizes them.

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#### 4. Motorola Donates Complex DSP Package

Steve Sagerian, KA0YRE of Motorola (at least partially responsible for the 68000 board network controller that CAPRA has done) has really come through for the joint AMSAT-TAPR Digital Signal Processing (DSP) project. He arranged for the DSP operations branch of Motorola to come up with two 56001 EXP kits.

This kit comes with bare boards, boot ROMs (a debugger, monitor), PAL's, and several manuals. Just to get things rolling in a hurry Motorola decided to be very generous and throw in two DSP56001 chips. This board has a 20.48 MHz clock and processes 10.25 million instruction per second. Using the architecture to its fullest one could do a 1024 point Fast Fourier Transform (FFT) in 3.48 ms.

Steve and Bob McGwier, N4HY, will be building these two units up. They expect further support from Motorola as they get applications back from AMSAT/TAPR. AMSAT expresses its thanks Motorola, Inc. for its generous support in the form of several thousand dollars worth of hardware and software!

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#### 5. Board Reviews Dues Structure; New Rates Reflect Postal Increase

AMSAT Headquarters announces that a member dues increase will go into effect May 4. Effective May 4th, the new rates are:

|                        |      |
|------------------------|------|
| U.S. Domestic members: | \$30 |
| Canada and Mexico:     | \$36 |

Other foreign: \$45

In accord with the Bylaws, a member dues change comprises a Bylaws change. Consequently, the dues change shall be effective thirty days after publication unless 10 % of the voting members object in writing. If so, then a general membership vote will be held by mail.

The dues increase was made necessary by increased production and especially postal costs. The Board has directed a 25% reduction in the cost of ASR and has asked the president to provide members a view as to how dues are spent. (Currently ASR consumes more than 25% of the AMSAT annual budget, i.e., costs more than \$50,000 per year.) The Board meeting held March 12 and 13 approved the dues changes. The last due increase was in April 1983.

Beginning May 1, all overseas annual members will receive ASR directly from AMSAT via Air Mail. Previously, re-mailers had helped in distribution by re-mailing from their locale. However, the additional delays incurred and complaints from members concerning the re-mailing process has resulted in the change in overseas mailing method and rates. Overseas Life Members may opt to have their ASR sent by Air Mail by remitting the additional postage costs. Otherwise ASR will be mailed sea mail to overseas Life Members.

Annual members should renew early to beat the dues increase. You may renew for several years in advance.

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## 6. Short Bursts

Dave Medley, KI6QE will be handling the AMSAT 75 Pacific Coast net according to Regional Coordinator Ross Forbes, WB6GFJ.

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Rumors suggest the launch of the Russian space shuttle is imminent.

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The USSR has launched an Indian Remote Sensing satellite according to Max White at the Royal Greenwich observatory. The IRS payload was launched March 17 at 0600 southbound from Tyuratam in the USSR. It will be handed over by the Russians for use at the end of the month. The launcher was the SL3 Vostok. Imagery is on S and X band, but RGO believes that a beacon may exist on known Indian frequencies in the 137 MHz band and a search of this region may prove fruitful. The weight of the payload is 950 kg

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Date: 19 Mar 88 06:58:49 GMT  
From: ulysses!thumper!karn@ucbvax.Berkeley.EDU (Phil R. Karn)  
Subject: Skitrek 1st Drop Information

Posted: Tue Mar 15, 1988 11:34 AM GMT                      Msg: AGII-3415-4727  
From: RENSIGN  
To: RWALLIO, VRIP, NCS  
CC: AMSAT  
Subj: Skitrek 1st Drop Information

Supplement B to Transpolar Skitrek Progress Report #7  
For the 9 PM Local Time Tuesday Evening Nets

February 15, 1988

The first air drop of supplies to the 13 man Transpolar Skitrek Expedition took place at 09:00 UTC Monday. Eleven drops were made in two passes over the skiers, now 200 km along in their journey. All supplies arrived safely on the ground including fresh fruits and vegetables. The skiers constructed a large igloo to serve, along with the tent, as a more permanent home for their two day stop. They will also use the igloo for drying damp clothing, a problem they could not solve earlier.

The numbness in their limbs which the skiers complained of a week ago is now gone. All skiers are in good health. Richard Weber, VE8RW, sends his greetings to all in the south that are following the trek. The group will be conducting scientific research during their stay including medical exams and stress tests.

Rick Burke, V01SA Portable UA0, at Sredny Island, CI8C at Resolute and North Pole 28 Ice Island Station 4K0D are all on RS-10/11. Listen for them on the northern portion of passes in the 29.417 - 29.420 MHz range of the 10 meter downlink.

The skiers' current position should be heard on the U0-11 Digitaler this evening.

Rich Ensign, N8IWJ

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Date: 19 Mar 88 07:01:31 GMT  
From: ulysses!thumper!karn@ucbvax.Berkeley.EDU (Phil R. Karn)  
Subject: Skitrek Report 8

Posted: Sat Mar 19, 1988 4:46 AM GMT  
From: RENSIGN  
To: VRIP, RWALLIO, NCS, AMSAT  
CC: PKARN  
Subj: Skitrek Report #8

Msg: LGII-3425-2100

# TRANSPOLAR SKITREK PROGRESS REPORT #8: March 18, 1988

Prepared by Rich Ensign, N8IWJ, AMSAT Science Education Advisor  
For Use With The AMSAT Teachers Guide  
"Exploring The High Arctic From Your Classroom"

The first air drop of supplies to the 13 man Transpolar Skitrek Expedition took place on March 14th. Eleven drops were made in two passes over the skiers. All supplies arrived safely on the ground including fresh fruits and vegetables. The skiers constructed a large igloo to serve, along with the tent, as a more permanent home for their two day stop. They also used the igloo for drying damp clothing, a problem they could not solve earlier. The numbness in their limbs which the skiers complained of several weeks ago is now gone. All skiers are in good health. The group conducted scientific research during their stay including medical exams and stress tests. On Wednesday, March 16th, the 13 trekkers packed up and continued on their journey.

Rick Burke, V01SA Portable UA0, at Sredniy Island, CI8C at Resolute and North Pole 28 Ice Island Station 4K0D are all on RS-10/11. Listen for them on the northern portion of passes in the 29.417 - 29.420 MHz range of the 10 meter downlink. Rick's daily routine includes a 1 km walk from his quarters to the shack during which he has an armed escort in case of polar bears (he hasn't reported seeing one yet). The weather has been severe at both Resolute and Sredniy with strong winds and snow.

Winds the skiers have encountered lately have been about 15 km/hr with temperatures around -35C. As of Thursday, March 17th, the skiers had made excellent progress since continuing their journey. Their location was

83d 11.7'N, 97d 26.6'E as they completed Thursday's trek. This brings them to a total trek distance to date of 225 km. Since the digitalizer and 2 meter beacon onboard UO-11 have not been functioning continuously due to programming problems, schools and others following the trek may access any position information they have missed on the WORPK AMSAT Bulletin Board (1-515-961-3325) or in ASR.

Many of the elementary schools following the trek will be contacting each other and comparing trek watching activities. These include schools in the U.S., Canada, New Zealand and South Africa. This sharing is being coordinated

by AMSAT's Science Education Advisor Rich Ensign. If you want an elementary school you are helping to become a part of the sharing, contact Rich for a list of schools involved. His address is 421 N. Military, Dearborn, MI 48124.

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A continuing series of Progress Reports like this one may be accessed via packet BBS, AMSAT Nets and the main educator source, the WOPRK AMSAT Bulletin Board. Progress Report #9 will be issued on March 25, 1988.

TRANSPOLAR EXPEDITION POSITION/CONDITION REPORTS VIA NORDSKI COMM & HF  
MARCH 9 TO MARCH 17, 1988

| REP#   | PRIOR. | DATE/TIME(GMT)              | LAT (N)    | LONG       | REMARKS              |
|--|--------|-----------------------------|------------|------------|----------------------|
| =====  |        |                             |            |            |                      |
|  |        | Celestial Nav 09MAR88 12:30 | 82d 09.3'N | 97d 47.0'E | U0-11 Re-programming |
| Today's conditions are rough. Current temp -40C wind 25km/hour. Expect -47C today with dropping temp tomorrow. |        |                             |            |            |                      |
| -----  |        |                             |            |            |                      |
|  |        | Celestial Nav 10MAR88 11:58 | 82d 16.9'N | 97d 24.6'E | U0-11 Re-programming |
|  |        | SARSAT/COSPAS 10MAR88 11:57 | 82d 18.7'N | 97d 22.1'E | -45C                 |
| -----  |        |                             |            |            |                      |
| 07   | 000    | 11MAR88 11:36               | 82d 28.8'N | 97d 13.0'E |                      |
| -----  |        |                             |            |            |                      |
| 12MAR88  |        |                             |            |            |                      |
| Skiers via HF: -42C Skied for 9 hrs.   |        |                             |            |            |                      |
| -----  |        |                             |            |            |                      |
| 08   | 000    | 13MAR88 11:16               | 82d 52.2'N | 97d 19.8'E | by celestial nav     |
| Skiers via HF: -42C and winds at 3-4 Meters/sec from NW  |        |                             |            |            |                      |
| -20C and snowy at Resolute   |        |                             |            |            |                      |
| -----  |        |                             |            |            |                      |
| Skiers Via HF: Skied from 01 to 07 UTC and waited for air drop which   |        |                             |            |            |                      |
| occured at 09 UTC. Temp -38C. Set up drop camp #1.   |        |                             |            |            |                      |
| -----  |        |                             |            |            |                      |
| 09   | 000    | 14MAR88 12:00               | 83d 01' N  | 97d 07' E  | Drop site location.  |
| Skiers Via HF: Skied from 01 to 07 UTC and waited for air drop which   |        |                             |            |            |                      |
| occured at 09 UTC. Temp -38C. Set up drop camp #1. Doing   |        |                             |            |            |                      |
| science, clothes drying in large igloo, and R & R with fresh   |        |                             |            |            |                      |
| fruits & vegetables.   |        |                             |            |            |                      |
| -----  |        |                             |            |            |                      |
| 15MAR88  |        |                             |            |            |                      |
| Day 2 at drop camp #1.   |        |                             |            |            |                      |
| -----  |        |                             |            |            |                      |
| 16MAR88 13:00 82d 58.7'N 97d 28.9'E Drop site location   |        |                             |            |            |                      |
| Will press on from drop camp later today. Position indicates possible  |        |                             |            |            |                      |
| drifting of ice away from pole. Wx at Sredniy -38C and 10km/hr wind.   |        |                             |            |            |                      |



Wx at Resolute -25C and windy. Poor visibility.

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17MAR88 83d 11.7'N 97d 26.6'E Celestial nav  
-35C and 18 km/hr from the SE. Lots of cracks in the ice but with ice  
bridges crossing so progress not slowed. 24 km today. 225 km total progress.  
Resolute wx -36C and high winds. Sredniy having full gale snowstorm.  
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End of INFO-HAMS Digest

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